

ABSTRACT OF THE DISCLOSURE

A substrate inspection system includes: a substrate mounting part which mounts thereon a substrate to be inspected; a charged particle beam irradiation part which generates a charged particle beam to irradiate the substrate with the charged particle beam, the irradiation of the charged particle beam causing a secondary charged particle and/or a reflected charged particle to generate from the substrate; an electron image detecting part which detects an electron image which is formed by the secondary charged particle and/or the reflected charged particle and is indicative of a physical property of the surface part of the substrate and which outputs a picture signal of the image; the electron image detecting part including a charged particle multiplying device which multiplies the secondary charged particle and/or the reflected charged particle, and an image grabbing element having a fluorescent body which receives the multiplied secondary charged particle and/or reflected charged particle as the electron image and which converts the electron image into an optical image, the image grabbing element converting the optical image into the picture signal; the charged particle multiplying device having an entrance surface through which the secondary charged particle and/or the reflected charged particle enter the charged particle multiplying device; the fluorescent body having a light receiving surface which receives the multiplied secondary charged particle and/or reflected charged particle and a fluorescent surface on which the optical image appears; a mapping projecting part which projects the secondary charged particle and/or the reflected charge particle in some degree of magnification on the electron image detecting part; an inspection part which inspects the substrate on the basis of the picture signal; and a control part which causes the fluorescent surface of the fluorescent body to be grounded and which applies a first negative potential to the entrance surface of the charged particle multiplying device.